

Remarks

Claims 1-19 are pending. Claims 12 and 19 are allowed while claims 1, 3-11 and 13-18 are rejected and claim 2 is objected to. Claims 1, 11, 13 and 17 are amended. Claim 20 has been added. Support for claim 1 can be found on page 20, lines 5-7.

The Examiner is thanked for withdrawing all rejections made in the final office action dated June 1, 2005. The Examiner has made a new 102(a) rejection citing a publication by Evans et al. in a publication dated June 25, 1999, which is within 1 year of the filing date. This publication is authored by the applicants and therefore is not an invention by others. Jack Benner is an additional author on the cited reference and is an employee of the assignee.

In addition, the present claimed invention can be readily distinguished from the cited reference. The present claims require intein fragments or a split intein and not an intact intein. The formation of the spliced or cyclized protein is a result of interaction between two intein fragments. The TWIN system in the cited reference uses a significantly different chemistry to that of the claimed method.

Figure 1 in the cited reference shows the TWIN system. This system uses intact inteins on either side of a protein. Cleavage of each intein from the protein results in a C-terminal thioester at one end of the protein and an N-terminal cysteine at the other and these reactive groups react to form a cyclized molecule in the absence of an intein.

This is quite different from the claimed invention an embodiment of which is illustrated in Figure 3 of the above application.

Figure 3 shows how two intein fragments that are each attached to a polypeptide (Extein in (A)) can cause polypeptides to be spliced together by transplicing. This does not utilize the TWIN reaction in the cited reference. Similarly in (B) a protein is cyclized not in a reaction between a free C-terminal thioester and a free N-terminal cysteine as required in the cited reference but instead by transplicing in the presence of two intein fragments.

Consequently, applicants respectfully submit that the new reference cited by the Examiner is neither a prior art reference because the authors, the inventor and the assignee are in common nor does it describe or even suggest the claimed invention.

Related Art

The Examiner has stated that US 6,849,428 ('428) does not claim or disclose that the target protein is fused to an affinity binding domain. This is not precluded by the claimed invention. However, the '428 patent does not describe spilt inteins or transplicing required in the present claimed invention.

Rejection under 35 USC 112 second paragraph

Claims 1 and 11 are directed to methods of producing a fused polypeptide. This is accomplished in element (c) of claim 1 and element (d) of claim 11. It is not an essential feature of the claimed invention to elute the fused polypeptide.

Claim 13 has been amended so that "said solid support" now has proper antecedent basis.

Claim 17 has been amended according to the Examiner's suggestion.

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Conclusion

For the reasons set forth above, Applicants respectfully submit that this case is in condition for immediate allowance. Early and favorable consideration leading to prompt issuance of this Application is earnestly solicited.

Applicants petition for a one-month extension of time to file a response. A check in the amount of \$ 60.00 is enclosed, covering the fees for the extension and additional claims. Please charge any deficiencies or credit any overpayment to Deposit Account No. 14-0740.

Respectfully submitted,

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